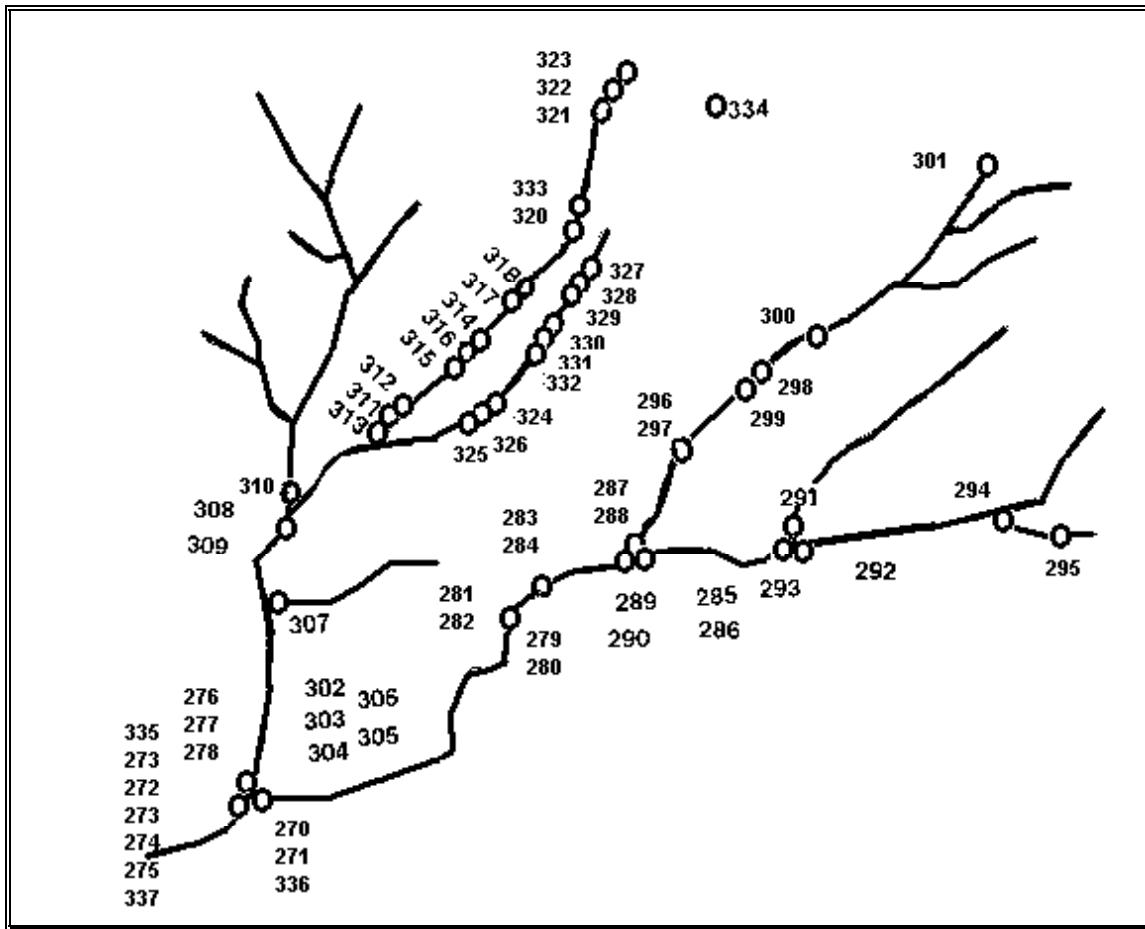


## Chollas Creek Watershed TMDL Soil Sampling

Soil samples were collected from various stations within Chollas Creek in June 1998. The samples were marked station #978-270 through #978-337. Station locations are shown on Figure 1.

**Figure 1. Chollas Creek tributaries showing location of June 1998 soil sampling stations.**



The soil samples were screened to determine the particle size using the following sieves: 10, 18, 45, 60, 80, 120, 170, 230 mesh and fines. The concentrations of various chemical parameters in the soil samples were determined in milligrams per kilogram wet weight. Percent moisture content was determined to enable calculation of dry weights. The soil samples were analyzed for the several parameters, including: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, TOC, TPH, Motor Oil, EC umhos/cm, pH units, Nitrate-N, Nitrite-N, Orthophosphate, PAHs, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd-)pyrene, 2-Methylnaphthalene, Naphthalene, Phenanthrene, Pyrene, PCB's and Pesticides, Alpha-BHC, Gamma-BHC, Heptachlor, Endosulfan I, Dieldrin, Endrin, 4,4'-DDD, 4,4'-DDT, Methoxychlor, Beta-BHC, Delta-BHC, Aldrin, Heptachlor Epoxide, Alpha-Chlordane, Gamma-Chlordane, 4,4'-DDE, Endosulfan II, Endrin Aldehyde, Endosulfan SO<sub>4</sub>, Endrin Ketone, Chlordane, Toxaphene and PCB's. In some of the soil samples (e.g., 978-277, -316, -327, -328 and -331), only a few parameters were analysed. The parameters that were "Not Analyzed" are indicated as NA. The blanks indicate that

for the detection limit tested the parameter was not found. The analysis method and detection limits for the various parameters were as follows:

<b>Parameter</b>	<b>Method</b>	<b>Detection Limit (in milligrams per kilogram) wet weight</b>
Antimony	EPA 6010	12.5
Arsenic	EPA 6010	12.5
Beryllium	EPA 6010	5.0
Cadmium	EPA 6010	5.0
Chromium	EPA 6010	5.0
Copper	EPA 6010	5.0
Iron	EPA 200.7	5.0
Lead	EPA 6010	12.5
Mercury	EPA 245.1	0.25
Nickel	EPA 6010	5.0
Selenium	SM3114B	0.62
Silver	EPA 6010	5.0
Thallium	EPA 6010	12.5
Zinc	EPA 6010	5.0
TOC	SM5310C	500
TPH	EPA8015M	150
Motor Oil	EPA8015M	150
Moisture Content, %	SM2540G	
EC, umhos/cm	EPA 120.1	
pH, units	EPA 150.1	
Nitrate-N	EPA 300.0	2.0
Nitrite-N	EPA 354.1	0.1
Orthophosphate	EPA 365.3	1.0

<b>Polynuclear Aromatic Hydrocarbons (PAHs)</b>	<b>Method</b>	<b>Detection Limit (in milligrams per kilogram) wet weight</b>
Acenaphthene	EPA 8270	0.42
Acenaphthylene	EPA 8270	0.42
Anthracene	EPA 8270	0.42
Benzo(a)anthracene	EPA 8270	0.42
Benzo(b)fluoranthene	EPA 8270	0.42
Benzo(k)fluoranthene	EPA 8270	0.42
Benzo(g,h,i)perylene	EPA 8270	0.42
Benzo(a)pyrene	EPA 8270	0.42
Chrysene	EPA 8270	0.42
Dibenzo(a,h)anthracene	EPA 8270	0.42
Fluoranthene	EPA 8270	0.42
Fluorene	EPA 8270	0.42
Indeno(1,2,3-cd-)pyrene	EPA 8270	0.42
2-Methylnaphthalene	EPA 8270	0.42
Naphthalene	EPA 8270	0.42
Phenanthrene	EPA 8270	0.42
Pyrene	EPA 8270	0.42

<b>PCB's and Pesticides</b>	<b>Method</b>	<b>Detection Limit (in milligrams per kilogram) wet weight</b>
Alpha-BHC	EPA 8081	0.856
Gamma-BHC	EPA 8081	0.782
Heptachlor	EPA 8081	0.561
Endosulfan I	EPA 8081	0.710
Dieldrin	EPA 8081	0.635
Endrin	EPA 8081	0.699
4,4'-DDD	EPA 8081	1.001
4,4'-DDT	EPA 8081	0.881
Methoxychlor	EPA 8081	0.906
Beta-BHC	EPA 8081	1.636
Delta-BHC	EPA 8081	1.212
Aldrin	EPA 8081	0.751
Heptachlor Epoxide	EPA 8081	0.609
Alpha-Chlordane	EPA 8081	0.560
Gamma-Chlordane	EPA 8081	0.602
4,4'-DDE	EPA 8081	0.605
Endosulfan II	EPA 8081	0.612
Endrin Aldehyde	EPA 8081	1.067
Endosulfan SO4	EPA 8081	0.548
Endrin Ketone	EPA 8081	0.505
Chlordane	EPA 8081	0.560
Toxaphene	EPA 8081	4.982
PCB's	EPA 8081	1.993